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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/534,765 | 05/12/2005 | Dirk Kornelis Gerhardus De Boer | NL02 1146 US | 8888 |

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| EXAMINER | |
|---|---|
| TRA, TUYEN Q | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2873 | |

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/534,765 | DE BOER ET AL. | |
| | Examiner | Art Unit | |
| | Tuyen Q. Tra | 2873 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0505*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Oath/Declaration*

1. The declaration filed 5/12/05 is acceptable.

### *Drawings*

2. The drawings filed on 5/12/2005 in this application are accepted.

### *Specification Objections*

3. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

### *Claim Objections*

4. Claim 1 is objected to because it recites a term *"capable of"* on line 3. Since the recitation that an element is *"capable of"* performing a function in not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. The examiner suggests a change to –operable for – or an appropriate correction is needed.

Claim 1, lines 5 and 13, recites "subjecting" and "polymerizing" which directs to method of forming product. Appropriate correction is needed.

### *Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiota et al. (U.S. Pat. 5,773,178 A).

a) With respect to claim 1, Shiota et al. discloses a process for producing a patterned anisotropic polymeric film comprising a polymerizable electro-optical material (i.e. a photopolymerizable liquid crystal) operable for being brought into an optically anisotropic state in response to an electric field (col. 4, line 35), subjecting the polymerizable electro-optical material to a non-uniform electric field to establish electric field lines in accordance with a desired pattern within the electro-optical material, the electric field lines being of sufficient strength for aligning the material and bringing the material into a desired optically anisotropic state commensurate with the non-uniform electric field, and polymerising the material in the optically anisotropic state to provide the optically anisotropic body (by exposing light thru ITO electrodes to the material)(col.4, line 15 - col. 6, line 22).

b) With respect to claim 2, Shiota et al. further discloses wherein the electro-optical material is a liquid crystal monomer (col. 3, line 21).

c) With respect to claim 3, Shiota et al. further discloses wherein the body comprising the polymerizable material is provided on an alignment layer (col. 4, lines 21-22).

d) With respect to claim 4, Shiota et al. further discloses wherein the non-uniform electric field is applied by use of a plurality of spaced electrodes and/or magnetic poles (col. 4, line 19).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota et al. (U.S. Pat. 5,773,178 A), as applied to claim 1 above, in view of Van Der Wel et al. (WO 03/062912 A1)

Shiota et al. discloses a process for producing a patterned anisotropic polymeric film comprising a polymerizable electro-optical material (i.e. a photopolymerizable liquid crystal) operable for being brought into an optically anisotropic state in response to an electric field (col. 4, line 35), subjecting the polymerizable electro-optical material to a non-uniform electric field to establish electric field lines in accordance with a desired pattern within the electro-optical material, the electric field lines being of sufficient strength for aligning the material and bringing the material into a desired optically anisotropic state commensurate with the non-uniform electric field, and polymerising the material in the optically anisotropic state to provide the optically anisotropic body (by exposing light thru ITO electrodes to the material)(col.4, line 15 - col. 6, line 22). However, Shiota et al. does not disclose at least one structured electrode; wherein non-uniform electric field is applied by use of a plurality of spaced electrodes arranged at one side of the body; wherein one electrode is part of the body.

Within the same field of endeavor, Van Der Wel et al. discloses a display device with teaching at least one structured electrode (item 6, 7 having different sized electrode surface); wherein non-uniform electric field is applied by use of a plurality of spaced electrodes (7) arranged at one side of the body (i.e. top side of the body); wherein one electrode (6) is part of the body (see Figure 1).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the polymerizable electro-optical apparatus with electrodes for generating electric field such as disclosed by Shiota et al., with at least one structured electrode; wherein electric field is applied by use of a plurality of spaced electrodes arranged at one side of the body; wherein one electrode is part of the body such as discloses by Van Der Wel et al., for purpose of generating electric field for changing characteristics of the material.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiota et al. (U.S. Pat. 5,773,178 A), as applied to claim 1 above, in view of Kumar et al. (US Patent 6,864,931 B1).

Shiota et al. discloses a process for producing a patterned anisotropic polymeric film comprising a polymerizable electro-optical material (i.e. a photopolymerizable liquid crystal) operable for being brought into an optically anisotropic state in response to an electric field (col. 4, line 35), subjecting the polymerizable electro-optical material to a non-uniform electric field to establish electric field lines in accordance with a desired pattern within the electro-optical material, the electric field lines being of sufficient strength for aligning the material and bringing the material into a desired

optically anisotropic state commensurate with the non-uniform electric field, and polymerising the material in the optically anisotropic state to provide the optically anisotropic body (by exposing light thru ITO electrodes to the material)(col.4, line 15 - col. 6, line 22). However, Shiota et al. does not disclose the anisotropic body is selected from the group consisting of a polariser, a compensation foil, and a micro-lens array. Kumar et al. disclose an electrically controllable liquid crystal microstructures in Figure 10 with the body is a microlens array (item 80, Figure 10).

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the polymerizable electro-optical apparatus with an optically anisotropic body such as disclosed by Shiota et al., with the body is microlens array such as discloses by Kumar et al., for purpose of focusing light on display device.

***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mark, can be reached on (571) 272 - 2333. The fax number for this Group is (571) 273-8300.

TT

July 14, 2006

RICKY MACK
SUPERVISORY PATENT EXAMINER